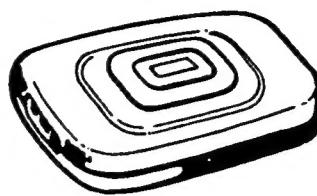


# Service Manual



ORDER NO.  
TRT1065

## SURFACE-MOUNT TUNE-UP WOOFER SYSTEM **TS-LX80II** EW

### 1. SPECIFICATIONS

#### • Speaker specifications

Size .....  $\phi 160\text{mm}$  (6-1/2" Dia.)  
Injection-molded polypropylene cone  
High compliance, rolled edge  
Heat-resistant voice coil  
Strontium magnet: 380g (13.5 oz)

#### • Amplifier

Max. power output ..... 80W  
Input level (RCA) ..... 70mV+70mV/22k $\Omega$

(Speaker line) ..... 1.5V+1.5V/8k $\Omega$   
(at GAIN Max.)

Power source ..... DC14.4V (10.8-15.6V allowable)  
Grounding ..... Negative ground

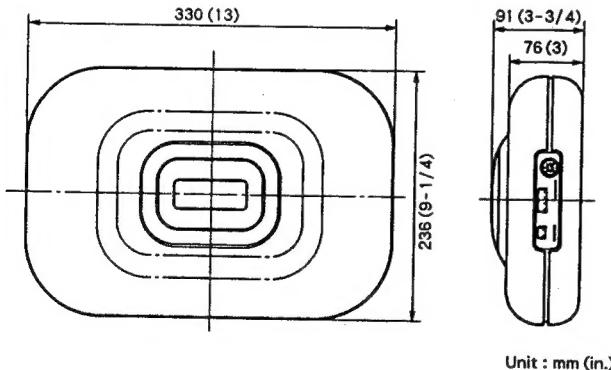
Max. current consumption ..... 7A

#### • Speaker system

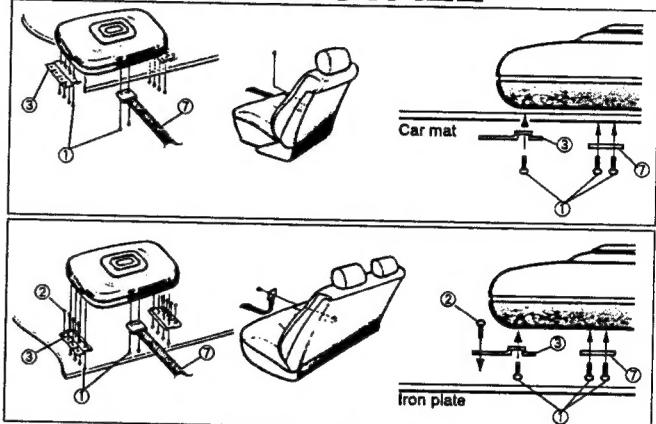
#### • Cabinet material

Size ..... 330mm (W)  $\times$  236mm (D)  $\times$  91mm (H)  
Weight (including accessory parts) ..... 4.10kg (9 lb 1 oz)

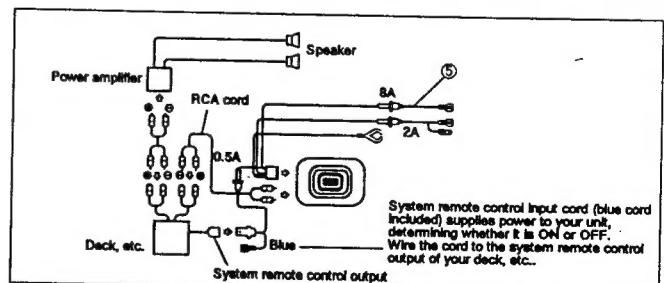
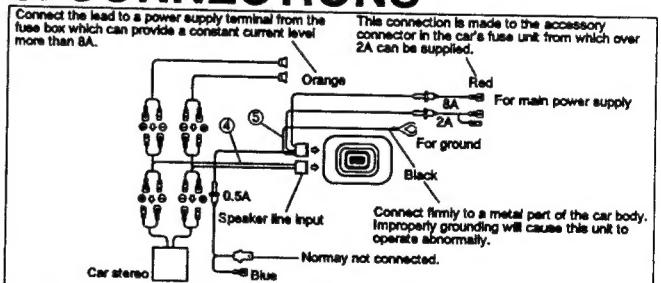
Gross weight (including packaging) ..... 4.50kg (9 lb 15 oz)



### 2. HOW TO INSTALL



### 3. CONNECTIONS



**PIONEER ELECTRONIC CORPORATION**

PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.

PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada

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## 4. EXPLODED VIEWS AND PARTS LIST

### NOTES:

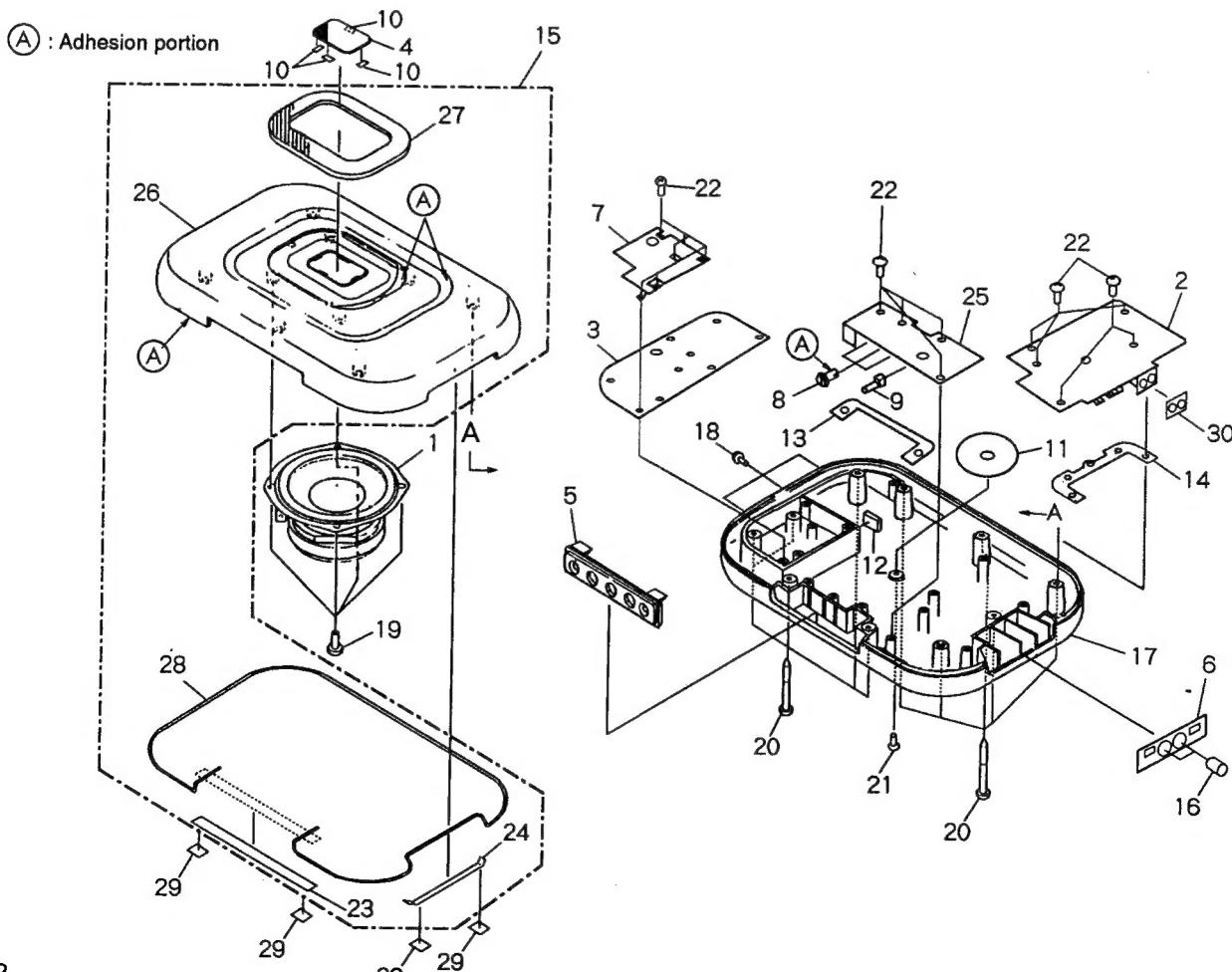
A

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

A

### Parts List

Mark	No.	Description	Part No.	Remark	Mark	No.	Description	Part No.	Remark
B	1	Woofer	16-437AZ	$\times 1$		16	RCA cap	TEB1173	$\times 2$
	2	Control amp unit	TWG1004	$\times 1$		17	Cabinet	TLM1148	$\times 1$
	3	Power amp unit	TWH1010	$\times 1$		18	Screw	BMZ30P100FZK	$\times 3$
	4	Mesh	TLL1206	$\times 1$		19	Screw	BPZ40P100FMC	$\times 4$
	5	Front panel	TNS1007	$\times 1$		20	Screw	BPZ40P160FMC	$\times 10$
	6	Side panel	TNS1010	$\times 1$		21	Screw	BSZ40P120FZK	$\times 1$
	7	Shield plate	TNA1185	$\times 1$		22	Screw	BBZ30P100FMC	$\times 16$
	8	Volume knob	TAA1003	$\times 3$	NSP	23	Packing	TEC1353	$\times 1$
	9	Switch knob	TAA1004	$\times 1$		24	Packing	TEC1354	$\times 1$
	10	Adhesive	TEB1043	$\times 4$		25	Filter unit	TWN1019	$\times 1$
C	11	Cushion	TED1044	$\times 1$	NSP	26	Upper case	TLM1241	$\times 1$
	12	Insulator	TNM1005	$\times 1$	NSP	27	Mesh	TLL1207	$\times 1$
	13	Packing	TEC1351	$\times 1$	NSP	28	Silicon tube	TEB1118	$\times 1$
	14	Packing	TEC1352	$\times 1$	NSP	29	Packing	TEC1563	$\times 4$
	15	Upper case assembly	TXK1345	$\times 1$	NSP	30	RCA packing	TEE1125	$\times 1$



## 5. PCB PARTS LIST

### NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560  $\Omega$   $\rightarrow$  56  $\times$  10<sup>3</sup>  $\rightarrow$  561 ..... RD1/8PM 5 6 1 J

47k  $\Omega$   $\rightarrow$  47  $\times$  10<sup>3</sup>  $\rightarrow$  473 ..... RD1/4PS 4 7 3 J

0.5  $\Omega$   $\rightarrow$  0R5 ..... RN2H 0 R 5 K

1  $\Omega$   $\rightarrow$  010 ..... RS1P 0 1 0 K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).  
5.62k  $\Omega$   $\rightarrow$  562  $\times$  10<sup>3</sup>  $\rightarrow$  5621 ..... RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
<b>LIST OF ASSEMBLIES</b>							
NSP	CONTROL UNIT		TWX1006		C25		CEA471M10L2
	└ CONTROL AMP UNIT		TWG1004		C22		CEA471M16L2
	└ FILTER UNIT		TWN1019		C5, C6, C8		CCCSL101J50
	POWER AMP UNIT		TWH1010		C11, C14		CKCYB821K50
					C15, C16		CKCYF103Z50

RESISTORS		ALL RESISTORS	RD1/4PS□□□JL
JK1	RCA JACK L	TKB1003	
JK2	RCA JACK R	TKB1004	
	RCA FIXING STEEL	TNA1257	
CN4	CONNECTOR	TKS1013	
CN5	CONNECTOR	TKS1018	

CONTROL AMP UNIT		FILTER UNIT	
SEMICONDUCTORS		SEMICONDUCTORS	
IC1, IC2	NJM2068S	IC101-IC103	NJM2068S
IC3	M5233L	D101	SLH-34VC3F
Q2	2SA1048		
Q4	2SC2060		
Q1, Q3	2SC2458		
D9	RM10-LF-D2K		
D8	ERA15-02VH		
D1, D3-D7, D11	1SS176		
D2	RD6R8JS		
D10	RD9R1JS		

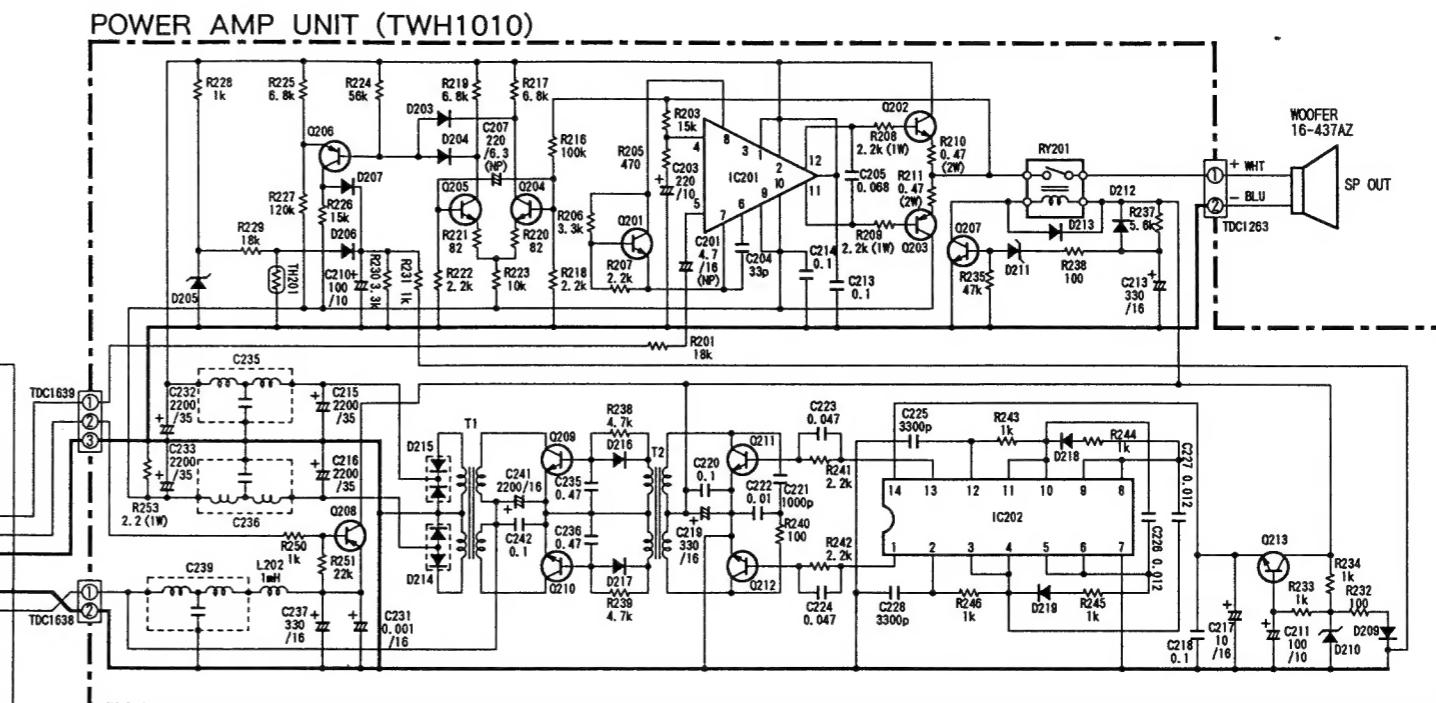
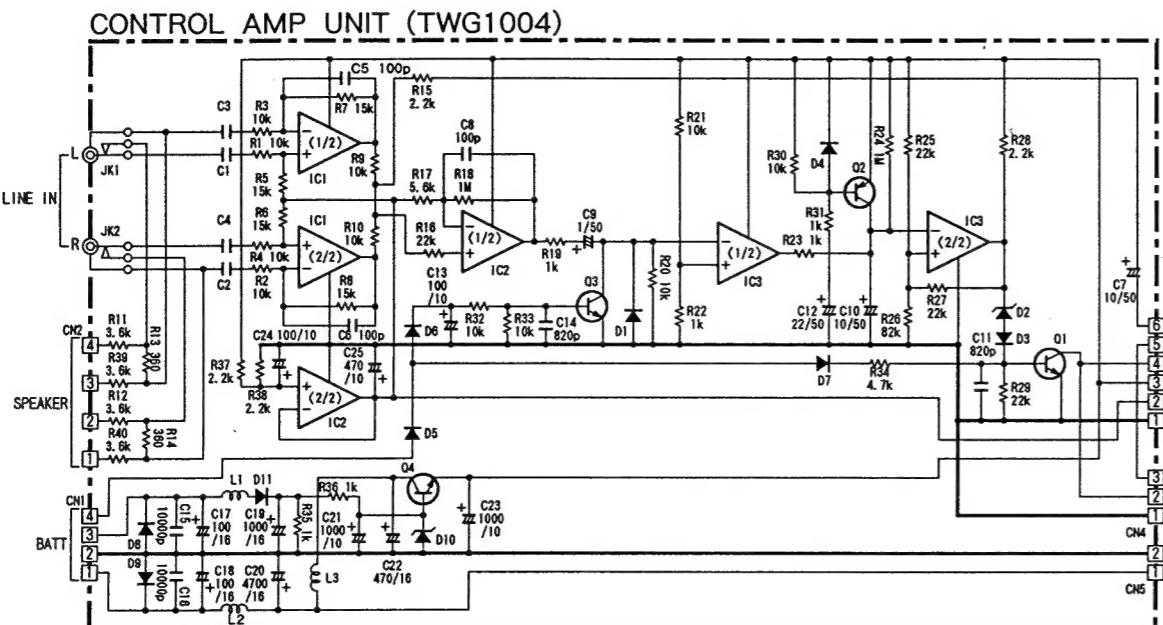
COILS		SWITCH	
L2	TTF1004	SW101	CSG-207
L1	TTF1005		
L3	TTF1006		
CAPACITORS		CAPACITORS	
C21, C23	CEA102M10L2	C103	CEA010M50L2
C18	CEA102M16L2	C108, C110	CQMA123J50
C20	TCH1126	C106, C107	CQMA332J50
C19	TCH1109	C109, C111	CQMA562J50
C1-C4	TCH1104	C104, C105	CCCSL101J50
		C101, C102	CKCYF103Z50
C9	CEA010M50L2	RESISTORS	
C7, C10	CEA100M50L2	VR103	TSH1003
C13, C24	CEA101M10L2	VR101, VR102	TSH1004
C17	CEA101M16L2	OTHER RESISTORS	RD1/4PS□□□JL
C12	CEA220M50L2		

OTHERS			
BN101	CORD		TDC1637
CN102	CONNECTOR		TKS1047
CN103	CONNECTOR		TKS1048

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
<b>POWER AMP UNIT</b>							
<b>SEMICONDUCTORS</b>							
IC201			UPC1225H	<b>RESISTORS</b>	R208, R209		RS1LMF2R2JLJL
IC202			HD7402P	R210, R211			RS2LMF047JLJL
Q201			2SC3422	R253			RS1V222JLJL
Q202			2SD718	R238, R239			RS2LMF4R7JL
Q203			2SB688	R252			RS1V2R2JL
Q204, Q205			2SC2458	R228			RS1V102JL
Q206			2SA1048	OTHER RESISTORS			RD1/4PS□□□JL
Q207			2SC2655				
Q208			2SA965				
Q209, Q210			2SC4131				
Q211-Q213			2SC2001				
D203, D204, D206, D207, D212, D213, D216-D219			1SS176				
D205			RD9R1ES				
D209			03P2M				
D210			RD5R6JS				
D211			RD6R8JS				
D214			FMG-22S				
D215			FMG-22R				
<b>RELAY</b>		RL201	TSR1002				
<b>COIL AND TRANSFORMERS</b>							
L202			TTF1001				
T2			CTH-061				
T1			CTH-076				
<b>CAPACITORS</b>							
TH201			TCX-001				
C201			CBA4R7M16NPLL				
C202, C223, C224			CQMA473K50				
C203			CEA221M10L2				
C204			CCCSL330J50				
C205			CQMA683K50				
C207			TCH1101				
C211			CEA101M10L2				
C231			CEA102M16L2				
C212, C219, C237			CEA331M16L2				
C213, C214, C218, C220, C238, C240, C242			CQMA104K50				
C215, C216, C232, C233			TCH1099				
C217			CBA100M16LL				
C221			CQMA102K50				
C222			CQMA103K50				
C225, C228			CQMA332K50				
C226, C227			CQMA123K50				
C235, C236, C239			CCG-081				
C241			TCH1100				
C235, C236			CQMA474K50				

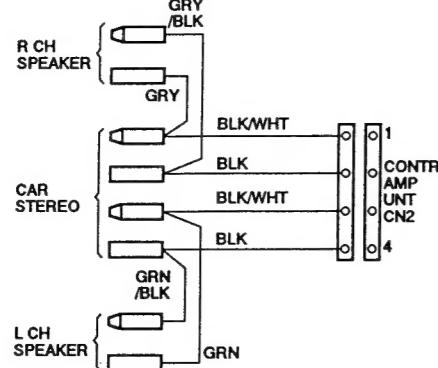
## 6. SCHEMATIC AND PCB CONNECTION DIAGRAM

## 6.1 SCHEMATIC DIAGRAM

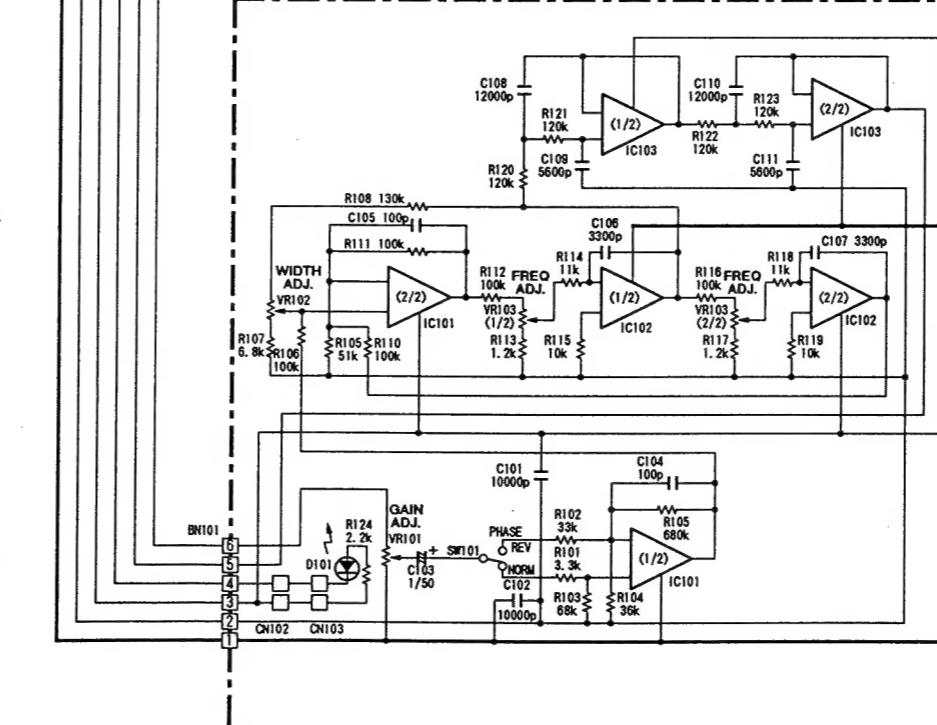
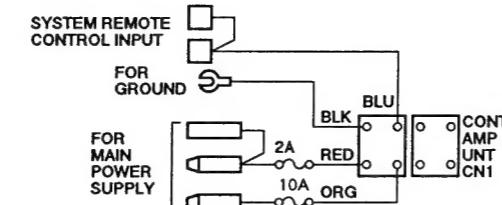


- Accessory cords

- TDC1814

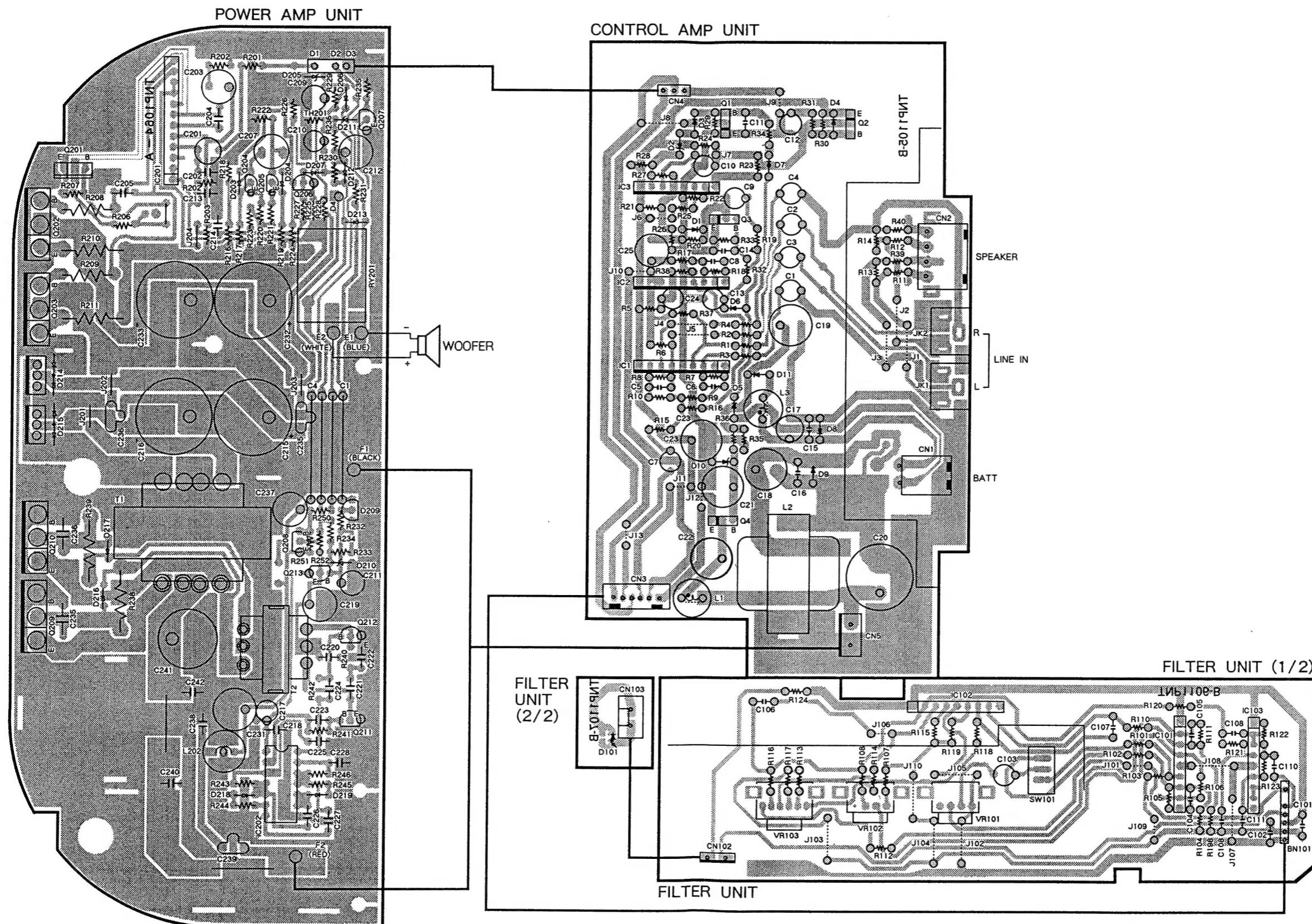


- TDC18



<b>POWER AMP UNIT</b>	
IC201	UPC1225H
IC202	HD7402P
Q201	2SC3422
Q202	2SD718
Q203	2SB688
Q204,Q205	2SC2458
Q206	2SA1048
Q207	2SC2655
Q208	2SA965
Q209,Q210	2SC4131
Q211-Q213	2SC2001
D203,D204,D206,1SS176	
D207,D212,D213,	
D216-D219	
D205	RD9R1ES
D209	03P2M
D210	RD5R6JS
D211	RD6R8JS
D214	FMG-22S
D215	FMG-22R
<b>FILTER UNIT</b>	
IC101-IC103	NJM2068S
D101	SLH-34VC3F
<b>CONTROL AMP UNIT</b>	
IC1,IC2	NJM2068S
IC3	MS233L
Q2	2SA1048
Q4	2SC2060
Q1,Q3	2SC2458
D9	RM10-LF-D2
D8	ERA15-02VH
D1,D3-D7,D11	1SS176
D2	RD6R8JS
D10	RD9R1JS

## 6.2 PCB PATTERNS



## 7. PACKING AND PARTS LIST

### Parts List

Mark	No.	Description	Part No.	Remarks
	1	Holder	TNA1088	× 2
	2	Parts bag (Screws)	TEA1249	× 1
NSP	3	Parts bag assembly	TXH1391	× 1
	3-1	Cord	TDC1814	× 1
	3-2	Cord	TDC1816	× 1
	5	Belt	TNA1203	× 1
		Styrofoam protector	TEC1643	One pair
		Packing case	THF2004	× 1

### • Including parts

